SCIENCE
Seventh Grade

LIFE SCIENCE STANDARDS

Cell Structure and Function

The student will investigate the structure and function of plant and animal cells.

Key	Reporting Category		Project WET Activity
D		Design and construct a hierarchy among cells, tissues, organs, and systems.	
A	**CS**	Determine the relationships among cells, tissues, organs, and systems given a diagram and identify the function of organ systems.	
A	**CS**	Recognize basic structures that most cells share (i.e., nucleus, cytoplasm, and cell membrane).	
A	**CS**	Distinguish between plant and animal cells.	
A	**CS**	Identify major cell organelles and their functions.	
D		Sequence a series of diagrams depicting the stages of cell division in plant and animal cells.	
A	**CS**	Sequence a series of diagrams depicting the movement of chromosomes during mitosis.	
I		Design models to illustrate how materials move between cells and their environment.	
A	**CS**	Predict the movement of substances through osmosis or diffusion across the cell membrane, given solutions of different concentrations.	Let's Even Things Out, 72

Food Production and Energy for Life

The student will study the basic parts of plants, investigate how plants produce food, and discover that plants and animals use food to sustain life.

D		Compare and contrast photosynthesis and respiration.	
A	**FP**	Determine what plants need to make food.	
A	**FP**	Identify photosynthesis as the food making process in plants.	
A	**FP**	Identify the reactants and products of photosynthesis and respiration.	
D		Relate the processes of photosynthesis and respiration to appropriate cellular organelles.	
A	**FP**	Associate the processes of photosynthesis and respiration with appropriate cellular organelles.	
D		Diagram and explain how oxygen and carbon dioxide are exchanged between living things and their environment.	
A	**FP**	Select the structures that animals use to obtain oxygen.	
A	**FP**	Classify animals according to their means of obtaining oxygen.	
A	**FP**	Select the illustration that depicts the movement of oxygen and carbon dioxide between living things and their environment.	
A	**FP**	Interpret a diagram depicting the oxygen-carbon dioxide cycle.	

KEY
I = Introduced D = Developing A = State Assessed M = Mastered

REPORTING CATEGORY
CS = Cell Structure & Function FP = Food Production & Energy HR = Heredity & Reproduction
AC = Atmospheric Cycles SP = Structure & Properties

Note: "A" indicates the state curriculum (CRT) assessment only.
All the skills ("I"…"D"…"A"…"M") are addressed in the classroom assessment.

Heredity and Reproduction

The student will understand the basic principles of inheritance.

A	**HR**	Match a flower part with its reproductive function.	
A	**HR**	Distinguish between sexual and asexual methods of reproduction.	
D		Recognize that genetic information is passed from parent to offspring during reproduction.	
A	**HR**	Recognize advantages and disadvantages of sexual and asexual reproduction.	
A	**HR**	Recognize a variety of pollination methods and associated floral adaptations.	

Earth Science Standard

Atmospheric Cycles

The student will investigate the relationships among atmospheric conditions, weather, and climate.

D		Explain how conditions, such as the amount of precipitation, temperature, and wind speed affect the water cycle.	Water Models, 201 Branching Out, 129
A	**AC**	Determine how temperature affects evaporation and condensation in the atmosphere.	Water Models, 201
A	**AC**	Identify the detailed features of the water cycle given a diagram (i.e., evaporation, condensation, precipitation, run-off, and transpiration).	Thirsty Plants, 116 Incredible Journey, 162
D		Record and analyze meteorological data to predict weather patterns.	
D		Use diagrams to demonstrate how atmospheric winds and ocean currents affect weather and climate.	Piece it Together, 174
A	**AC**	Analyze data and make predictions about weather given a scenario.	
A	**AC**	Interpret weather data using a weather map.	
I		Explain the impact of catastrophic events on climate (e.g., volcanic eruption).	
I		Research careers related to meteorology.	

Physical Science Standard

Structure and Properties of Matter

The student will investigate the characteristic properties of matter.

D		Differentiate among elements, compounds, and mixtures.	Is There Water on Zork? 43
A	**SP**	Distinguish between elements, compounds, and mixtures (i.e., $_{Na, Cl, NaCl, C, O2, CO2, H2, and H20}$).	What's the Solution? 54
D		Describe the particle arrangement associated with different states of matter.	Adventures in Density, 25
A	**SP**	Compare the motion and arrangement of molecules in solids, liquids, and gases.	Molecules in Motion, 47
D		Identify the mass, volume, density, boiling point, melting point, and solubility of a given substance.	
D		Measure and/or calculate the mass, volume, density, and temperature of a given substance.	
A	**SP**	Determine the measurable properties of matter and appropriate metric units (i.e., weight, mass, volume, density, size (length, width, height, and temperature).	
I		Obtain information about an element with the aid of a periodic table.	
A	**SP**	Classify substances as elements or compounds from their symbols or formulas.	

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